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TRANSACTIONS
OF THE
AMERICAN PHILOLOGICAL ASSOCIATION.

1898.

I.—*The Origin of the Gerundive.*

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THE last few years have been fruitful in new or old, but newly championed, theories of the origin of the Gerundive. Conway (*Classical Review*, V. 295 sq.) took up a theory of Curtius, which compared Lat. *-endo-* with Skr. *-anīya-*, or rather with an imaginary **-anya-*. Dunn (*ib.* VI. 1 sq., 264) criticised the inconclusive character of Conway's equations, and advanced a rather complex explanation, according to which *regendus* was extended from an infinitive **regven* by a suffix *-do-*. But **regven* is none too probable. Havet (*Mémoires de la Société de Linguistique*, VI. 231 sq.) advanced the proposition *ferundus* = φερόμενος. This equation was advocated by Thurneysen (*Kuhn's Zeitschrift*, XXX. 493 sq.) at some length. Its crying defects on the phonetic side are briefly stated by Stolz (*J. Müller's Handbuch der Klassischen Altertumswissenschaft*, II². 385). The advocates of this theory must also charge themselves with explaining the development of signification and syntax in the gerundive.

Two theories are associated with Brugmann's name, though the first of these (v. *American Journal of Philology*, VIII. 441 sq.) is properly to be charged to the account of Joh. Schmidt (v. Bersu, *Die Gutturalen*, 134). This theory derives *-nd-* of the gerundive from *-tn-*, and compares Lat. *secundus*

with Lith. *sèktinas* and O. Pers. infinitives in *-tanaiy*. This theory, though taken over by Stoltz (*I.c.* 311), has been abandoned by Brugmann (v. his *Grundriss der vergleichenden Grammatik*, II. § 1103) for, as it seems to me, very good reasons (v. Wiedemann, *Litauische Sprache*, § 198, and the literature there cited).¹ The second theory divides *ferendo* (dat. sg. masc.) into an infinitival *ferem + do*, **dō* being a postposition cognate with our *to* (v. *Grundriss*, II. § 1103 anm.). Negative criticism has already befallen this theory, viz. from Lindsay (*The Latin Language*, 543) and from Horton-Smith (*Amer. Jour. Phil.* XV. 196 sq.); on the other hand, it has already met a qualified acceptance at the hands of von Planta (*Grammatik der Oskisch-Umbrischen Dialekte*, II. 401).

Let us examine this theory with some minuteness. Brugmann infers an Italic postposition **dō*, *de* on the basis of Lat. *en-do in-du*, *do-nicum do-nec*, Avest. *vacšman-da* ‘home-wards,’ Gk. ἡμέτερόν δὲ ἡμέτερον δῶ [‘chez nous’], O. Ir. *do* ‘to,’ O. Eng. *to*, O.H.G. *zuo, zi*. On sifting this material, no proof of a postposition **dō* remains; δῶ comes from *δῶμ ‘house’ according to the following scholars: Kretschmer (*K.Z.* XXXI. 358), Bartholomae (*Indogermanische Forschungen*, I. 310), Johannson (*ib.* III. 231), Streitberg (*ib.* III. 331, 347), Hirt (*Der Indogermanische Akzent*, 116). Even Prellwitz, in his *Etymologisches Wörterbuch d. Griech. Sprache*, does not explain δῶ as ‘to,’ though this etymology proceeds originally from Fick, while Stokes (*Bezzemberger's Beiträge*,

¹ Attention may be called in passing to the unsatisfactory nature of the proof that Lat. *-nd-* results from *-tn-*. Thurneyse's examples (*K.Z.* XXVI. 301 sq.) are not cogent. The cognition of *pando* with *paleo*, πετάννυμι πιτνημι is no more plausible than its derivation from *s)pan-* plus a root-determinative *d-*; cognates are Lith. *spandyti* ‘pandere,’ O. Blg. *paditi* ‘agere,’ and, in a general way, Germ. *span-nen*. Thurneyse's other example, got by deriving *tendo* from **te-in-o*, is imaginary. This is as fanciful as when Conway (*I.c.*) derives *tendo* from **ten-yo*. The participle *tentus* (: τατός, Skr. *tati-*) cannot disprove the determinative nature of the *d* of *ten-do*. Who shall tell us that **ten-tos* of the inherited stock of words did not drive from the field a newborn **tén-datos*, **tent-tos*; and if his argument from *tentus* is good, what will Thurneyse do with *pansus*, *passus*: *pando*? The manuals (Brugmann's *Grundriss*, II., p. 152, footnote, and Stoltz in the *Handbuch*, *I.c.*) add no other examples, for *Panda*, Osc. *Patana*, is doubtless a Greek word (v. *infra*, p. 22).

XIX. 70) suggests cognation between δῶ and O. Ir. *dú*, ‘place.’ Brugmann, on the other hand, maintained his position as late as *I.F.* VI. 82, and still explains *endo* as containing -*dō* (*Grundriss*, I². § 1042), but without a new reference to his gerundive theory. O. Ir. *do-* is a variant of *tó*, if we can believe Stokes (in Fick’s *Wörterbuch*, II⁴. s.v. *tó*), and is never a postposition. The cognates of O.H.G. *zuo* are not postpositions. Thus the only warrant for a primitive *dō* is got from Lat. *en-dō* ‘in, into.’ Inasmuch as *endo*, *indu* are construed freely with either ablative or accusative, the accusative preponderating with *endo* and the ablative with *indu* (see the examples in Neue’s *Formenlehre*, II³. 907), it is perfectly fair to infer that the notion ‘wards’ was not contributed by the -*do* of *endo*, but was implied in the case, just as when *in* governs the accusative. Prellwitz (*Etym. Wörterb.* s.v. ἔνδον) explains the -*do* of *endo* as a deictic particle, and P. Persson (*I.F.* II. 218 anm. 4) accounts satisfactorily for the semantic development.

As to Grk. -δε (*οἴκονδε* ‘homewards’) Avest. -*da*, I note their very narrow range of usage. I feel free, in the light of τόδε ‘hither’ (Homer), to explain Lat. *eo* ‘thither,’ *quo* ‘whither’ from **eōde* **quōde*, and must dissent from a current theory that these adverbs are ablatives (v. Lindsay, *l.c.*, 568, and cf. the author, *Amer. Jour. Phil.* XVIII. 179); but *οἴκονδε* ‘homewards’ and τόδε ‘hither’ do not justify us in writing **ferem-de* ‘bearing-wards.’

If there is no proof of a postposition -*dō* in Latin, there is even less difficulty in disposing of the preposition *dō*- inferred from *dō-nec*. I can accept neither of the current theories for *donec* (*donicum*); neither Zimmermann’s (*Wölfflin’s Archiv für Lateinische Lexikographie*, V. 567 sq.), which operates with *dō + ne + cum*, *dō*- being ‘to,’ -*ne-* an affix, and *cum* ‘quom’; nor P. Persson’s (*I.F.* II. 218 sq.), which makes *dō*- a demonstrative element, -*ne-* an enclitic particle, and leaves -*cum* unexplained. These theories assume that *donicum*, the longer form, is older than *donec*. Wherefore? Plautus does use it seven times (*Aul.* 58, *Capt.* 339?, *Most.* 116, *Pseud.* 1168, *Truc.* 39?, *Vid.* 98, *Frag.* II. 241); in five of these

cases it suffers elision; at *Most.* 116 *-cum* is a verse-close, while at *Vid.* 98 *-cum* is under the ictus of the second foot in what seems to be a trochaic septenarius. Thus *-cum* seems to have metrical substantiation but twice in Plautus. We know this author used archaic forms, e.g. the infinitives in *-ier* and forms like *sicm*, etc., chiefly at verse-closes and other well-defined metrical positions, and *donicum* conforms to no such test of genuine archaisms.

Now, if we assume that *donec* be the earlier form, there is no great difficulty in explaining how this was extended to *donicum* under the influence of its near synonyms *dum* and *cum*. The Latin grammarians report a form *sed-um* alongside of *sed*, due, I take it, to the analogy of *ceter-um*, which begins to approximate *sed* in meaning as early as Plautus (cf. *Bacch.* 878 with *Capt.* 125). Comparable is *pos-t(e)*, with *-te* picked up from *ante*. In Plautus *donicum* behaves rather like a neologism than an archaism, as we have seen, and outside of Plautus only Cato (*R. R.* 146, 2; 149, 2; 161, 3) and Nepos (*Ham.* I. 4) use the form.

If *donic-um* were the earlier form, there is no standing ellipsis, as Lindsay (*Lat. Lang.*, 609) has pointed out, to lead to *donec*. The forms *doneque* (Lucretius) and *doneque* cannot be called in evidence on this point.

The chief support for Zimmermann's explanation of *donicum* comes from the derivation of Umbr. *arnipo* 'donec' from *ad + ne + q^uom*. This is to explain the unknown by the more unknown. There is no certainty whatever that *arnipo* means 'donec.' Let us cite, using von Planta's text and version, the two occurrences:—

capirse perso osatu eam mani nertru tenitu arnipo uestisia uesticos (VI. b 24)	capidi <i>solum</i> facito, eam manu sinistra teneto donec libamen- tum libaverit.
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enom uaso porse persondrisco habus serse subra spahatu an- deruomu sersitu arnipo comatir pesnis fust . . . serse comatir persnimu purdito fust (VI. b 41)	tum vasa quae ad <i>personetros</i> habuerit sedens supra — to, inter — sedeto <i>donicum</i> commolitis precatus erit . . . sedens commo- litis precamino porrectum erit
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In the latter passage the fut. pf. *pesnis fust* 'precatus erit' is supposed to be governed by *arnipo*. Only a few lines further the fut. pf. *purdito fust* 'porrectum erit' is used independently without a conjunction in an imperatival sense. This is a normal construction in Umbrian (cf. von Planta, *I.c.* II. § 341, p. 431), and Latin comedy also uses the fut. pf. independently. In both the places cited *arnipo* might be a noun either in the accusative, or, with some phonetic difficulty (cf. Buecheler, *Umbrica*, 189), in the instrumental. I propose to explain *arnipo* from *ad-* + a noun — a cognate of *nepitu* 'inundato' (Buecheler, *I.c.* 101), from prim. Ital. *neiq^u-*. The root was *NEIG-* 'wash,' with a by-form *NEIQ-*, an alternation that we may admit on general grounds (v. Brugmann, *Gr.* I² § 701), and specifically warranted by Skr. *-neka* (cf. Aeolic *vīσσω* 'I wash'), a form that appears in compounds in the *Sūtras*, the ritual books belonging to the Vedic cycles (v. Whitney, *Roots, Verb forms, etc.*, s.v. \sqrt{nij})¹. If *arnipo* is instrumental, 'water of purification' defines it well, but if it is accusative, 'watering-pot' will serve.

For our present purpose it is enough to bear in mind that *arnipo* is too uncertain to prove anything for *dōnec*.

I explain *dōnec* from **dom (dum) + nec* 'while not,' and for the phonetics involved cite *cōnecto* from *com + necto* [cf. *cōniveō*, *cōnitor* with *cōn-* from *com + g)n-* alongside of *cognosco*]. The negative *nec* is also found in *necopinans* and, with problematic *g-*, in *neg-otium neg-o* [? a direct extension of *neg-* 'not,' as Germ. (*ver*)neinen of *nein*]. For the passage of **dom nec* 'while not' to the sense of 'until' I cite the following striking parallel from the French of Zola: "Un peu avant minuit, Félicité se réinstilla dans un fauteuil, au pied du lit, résolue à ne pas quitter la place, *tant que* sa petite fille *ne dormirait pas*" (*Le Docteur Pascal*, XIII., p. 358). That *dōnec* contains a negative is the opinion of Buecheler (*I.c.* 46) and von Planta (*I.c.* II. 460), and the specific explanation I have advanced for *-ncc* was set forth by Pott long ago (*Etymologische Forschungen*, II. 2, 1043 sq.), who gives

¹The only form I am able to cite is *nirñeka* 'water of purification,' which is used by Manu.

Lettic parallels for the use of the negative, while he explains *dō-* by the suffix in *quan-do*, Skr. *ka-dū*.

Here let us sum up the objections to Brugmann's theory now under discussion: 1) The postposition *dō*, not well attested in any cognate language, is not proved for Italic by Lat. *endo* 'in, into.' 2) The narrow range of employment of the enclitic *-DE* '-wards' forbids us to assume Ital. **ferem-de* 'bearing-wards.' 3) The Ital. preposition *dō-*, inferred from *dō-nec*, carries no conviction.

The suggestions of a positive nature made up to this point are: 1) *donec* is derived from **dōm + nec* 'while not'; 2) *dōnicum* is subsequent to *donec*; 3) Umbr. *ar-nipo* is cognate with *nepitu* 'inundato,' Skr. *nir-nyeka* 'water of purification,' *nik-tá-* 'washed,' Gr. *νίψατο* 'he washed' (Homer), and Aeol. *νίσσω* 'I wash': NEIG-, NEIQ-.

In dismissing Brugmann's theory I note that it operates with an infinitive, and practically a dative infinitive. Further, it makes the gerundive a purely Italic development, a condition regarded by its author as a weakness.

Mr. L. Horton-Smith (*Amer. Jour. Phil.* XV. 194 sq.) presented an argument in support of Corssen's theory of the gerundive, viz.: that *-do-* is a suffix etymologically cognate with *dare* 'to give.' Lindsay (*l.c.* 544) supports the same view. According to this view *timidus* and *timendus*, for example, are compounds, the former of a stem, the latter of a case-form, with *-do-* 'giving.' Horton-Smith has made extensive lists of compounds, and particularly from Greek and Sanskrit, in which accus. case-forms compose the first member. In the Vedas the roots *dha* 'put' and *dā* 'give' furnish a number of such compounds, but there the composition is transparent, which is not the case with *timi-dus* 'fearing' and *timendus* 'to-be-feared, fearful.' We may grant that the parent-speech had such compounds, but even then we are left with two problems: 1) how did these compounds develop their particular (gerundival) signification in Italic? and 2) how did the gerundive develop its syntax of attraction? The first of these problems may be excellently solved by abstract general reasoning alone, as Roby (*Latin Gram-*

mar, II. lxvi sq.) has done; forms like Lat. *acceptus* 'acceptable,' *amabilis* 'lovable,' the Skr. gerundival adjectives in -ya, etc., and the Lith. *participium necessitatis* in -tinas all attest the development in question, but on the other hand Italic alone develops such a value for the suffix -do-. If we regard our first question as answered satisfactorily, the second still confronts us. Other things being equal, a theory of the gerundive that will satisfy both our questions is the best. Such a theory I presented in the same number of the *American Journal of Philology* (pp. 217-222) that contained Horton-Smith's paper, and a random discussion between us has since been going on (v. *ib.* XVI. 217-222, XVIII. 439-452 for his contributions to the question, and XVI. 1-2, 491-5 for mine).

My theory takes for its starting point the syntax of case-attraction so characteristic of the gerundive in Italic. The self-same phenomenon meets us in the Vedas, where the direct object of the infinitive, chiefly of the dative form, is attracted into the case-form of the infinitive. In Sanskrit the case-attraction has not gone as far as in Latin, but we can illustrate from Sanskrit substantially the whole range of meaning of the Latin gerundive. I note the following parallels: 1) *R. V.* 6. 1. 1. tvám sīm vṛsann akṛṇor duṣṭáritu sáho víçvasmai sákhase sáhadhyāi 'thou, O hero, shwest unsurpassable might (*suited*) every might to overpower' — :— Plautus, *Persa* 428: *referundae* ego habeo linguam natam *gratiae* 'I have a tongue born (*suited*) *gratitude to show*. 2) agnír iva ná *pratidhýse* bhavati (*T.S.*) 'like Agni he is *not to be resisted*' ('ei non resistendum est'). 3) agním samídhe cakártha (*R. V.*) 'thou hast made *the fire to be kindled*' — :— Conon muros *reficiendos* curat 'Conon has *the walls rebuilt*.' In these three examples we exhaust almost the entire range of meaning of the gerundive in Latin,¹ though attraction of case is shown only by the first in Sanskrit.

Let me here illustrate by an example the general nature of the case attraction: *rudráya dhánur á tanomi brahmadvise*

¹ I explain *agitandum est vigilias* as a blend construction: *agitandae sunt vigiliae* fused with *oportet vigilias agitare* and *vigilis curandum est*.

çárave hántavā u (*R. V.*) ‘*For Rudra the bow I stretch for* (i.e. against) *the Brahma-hater, for the arrow and for slaying.*’ Here every dative is in direct relation with the verb, and their interdependence is logical and not grammatical. Here we see the primitive conditions out of which attraction of case had its rise. The dative seems peculiarly liable to such attraction. At any rate, we can illustrate on this supposition the wider range of attraction shown in the Latin gerundive. If we start with a stock example like *agitandae sunt vigiliae* ‘watches are to keep,’ we see how, if *agitandae* were an original dative infinitive, it came into “concord” with *vigiliae*; under the same conditions it is an easy shift from *nata referundae gratiae* to *apta ad referendam gratiam* and *cupida referendae gratiae*, and from *rei agundae operam dare* (*Plautus, Merc.* 987) to *rebus agundis diem dare* (*ib. Poen.* 1189).

The gerundive is both active and passive in Latin. This phenomenon is also best explained if we assume an original infinitive. In Sanskrit, also, the same shift of voice obtains (v. Speyer, *Vedische u. Sanskrit-Syntex*, § 216 b).

With so much correspondence on the side of syntax and signification between the Latin gerundive and the Sanskrit dative infinitives, is there any chance to establish a formal identity? In the first example cited above, the Skr. infinitive ends in *-adhyāi*, the Lat. gerundive in *-endae*. I shall undertake to establish a cognation between these terminations.

Cognition of a general nature between the infinitive endings Skr. *-adhyāi* and Gk. *-εσθαι*, proposed originally by Bartholomae, has been accepted by conservative scholars, and taken up in the manuals (Brugmann, *Gr.* II. § 1088, 9, G. Meyer, *Griechische Grammatik*³, § 600). It is to be noted that *-θai* does not correspond with Skr. *-dhyāi*, but rather with *-dhe* in the once-used *çrad-dhé* ‘to believe’ (*R. V.* 1. 102. 2); but *-dhē* and *-dhyāi* are alike datives of *dhā* ‘put’ (cf. also *-dāi* : *dā-* ‘give’). The ending *-dhyāi* in Sanskrit never appears without an *a* before it, but its Avestan cognate *-dyāi* is also added directly to consonant verb stems, like *-dhe* in *çrad-dhé*. Bartholomae found difficulty with the *-σ-* of *-εσθαι*,

but this difficulty disappears when we compare the Greek forms directly with the Avestan. The phonetic equation between Avest. *dazd-yāi* ‘to do’ and Gk. θέσθαι ‘to put’ is perfect, barring the case-endings and passing over the repeated aspiration; δόσθαι ‘to give’ would also come by its -σθ- in a normal way.¹ After θέσθαι τιθεσθαι was patterned, after θέσθε (see footnote) τιθεσθε, and -σθ- in the Greek middle is fairly launched.

We must not lose sight of this, however, that the cognation of -σθαι and -adhyāi is general only. There is not the slightest reason to identify -e- with -a-.

Let us now see what basis there is for a formal identification of Lat. -endae with Skr. -adhyāi on the one hand, and with Gk. -εσθαι on the other. An absolute equation may be made of -end- with -adhī- (from -NDH-), and of -dae with -θai (from -DHĀI), Skr. -dhe (in ग्रादधे). If we examine ग्रादधे, it lends itself to the definition ‘set the heart on, trust,’ so *mandā-dhyāi* ‘set joy in, delight,’ *dhyād-dhyāi* ‘devote the thought to, invent, contrive,’ *yájadhyāi* ‘do worship to’; Bartholomae (*B. B.* XV. 234 sq.) defines *bháradhyāi* by ‘tragung zu machen,’ *sáhadhyāi* ‘bewältigung zu machen,’ *çayádhyāi* ‘liegen zu machen’ and (*Grundriss der iranischen Philologie*, I., p. 145) Avest. *vazaídhyāi* by ‘fahrt zu machen.’ In all of these cases the suffix seems to govern an accusative, logically at least. We may admit from the coincidences already pointed out between Greek and Avestan that primitive DHYĀI DHĀI had already become suffixes, but in the light of a compound like *dhiyam-dhá* ‘heed-giving, religious,’ which Prellwitz (*B. B.* XXII. 128) compares with θίασος (from *θιγμ-θυος), ‘Bacchic worshippers,’ we may not rule out the explanation of *bháradhyāi* from BHER-Μ + DHYĀI (cf. the compounds *nām-a-dhá* ‘name-giver,’ *ātm-a-da* ‘life-giving,’ with

¹ If we operate with these common verbs, we get an explanation of -σθ- in the Greek middle. Homer uses 2d plur. aor. ἔθεσθε, θέσθε, and the schematically regular 2d dual impv. θέσθον, aor. ἔθεσθον cover Sk. *dhadhvam* (2d plur.) and *ādhadhvam* (in an accented text) perfectly, so far as phonetics go. We may also compare Vedic *daddh-i* (2d sg. impv.) with θέσθ-ε (2d. plur.).

We may note here, as a curiosity, that a formation like Avest. *srūidyāi* ‘to hear’ would enable us to explain λύσαι (for *λύσσαι) from *λυθγα..

ă from γ), and of *feren-dae* from BHER-Μ + DHΞI, though *feren-dae* and *bhára-dhyāi* would be hardly less cognate if *feren-* be regarded as a case-form and *bhára-* as a stem-form. If we cannot demonstrate that *bhára-* is a case-form, it is as hard to show that it is a stem. We may explain Θέσθαι, Avest. *dazdyāi* as modelled on a type like Skr. *çrad* + *dhiē*, *çrad-* being a neut. accus., and still explain *bhára-* as accus. masc. of a root-noun. On merely formal grounds it is impossible to reach certainty, but the correspondences in signification and syntax support the nearest possible cognation between *ferendae* and *bháradhyāi*.

Taking them in a wide sense, the gerundive theories championed by Horton-Smith and by myself have much in common; the difference between DHĒ and DŌ as sources for the suffix (in fact) is not great. My theory also is not absolutely new, for Pott (*Etym. Forsch.*, II. 1, 481, 489, and *K.Z.* XXVI. 175) has referred *-dus* to *dhiē*, while he explained *-en-* as an infinitival suffix.

I make bold to believe that if Latin alone were to be considered, there would be no hesitation in accepting my theory of a general cognation between *fer-en-dae*, φέρ-εσ-θαι and Skr. *bhár-a-dhyāi*. No other theory, at any rate, offers so simple an explanation of all that concerns the signification and syntax of the gerundive, but a phonetic difficulty arises when we comprise within our survey the dialectic gerundives in *-enno-*. My theory involves two phonetic equations: primitive -MDH- gives 1) Lat. *-nd-* and 2) Osc.-Umbr. *-nn-*. Of these the first might pass without a demonstration, had it not been challenged by Horton-Smith in his last gerundive paper, cited above, where he claims that *-mb-* is the product in Latin of -MDH-, a claim based on Brugmann his *Grundriss I¹*. § 370: “Wenn [italics mine] lat. *lumbus* zu ahd. *lenti* ‘Lende’ aksl. *lēdviya* ‘Lende, Niere’ gehört, so ist es auf **lomdhos* zurückzuführen; die Entstehung des p aus dh wäre älter als der Übergang von m in n vor dentalen.” I do not question the cognation here asserted, but the phonetics of the explanation was always daring. Does any one suppose that *-mb-* would have stood for a moment in Italic without becoming *nb*? The

only plausible explanation of the question involved here is found in the following citation (Brugmann, *Gr.* I². § 360): “*lumbus* aus urlat. **londyos*: ahd. *lentin* ‘Lende’ (got. **londw-*) aksl. *lədviya* ‘Lende, Niere.’” For my own part I agree with Bartholomae (*Gr. d. iran. Phil.* I. 25) that Aryan -MDH- never existed save by analogical insistence (but v. Brugmann, *Gr.* I². § 390, Anm.).

It has been asserted, however, that Osc.-Umbr. -*m-* cannot represent -MDH-, -NDH-. In this sense many scholars have already expressed themselves in criticising a theory of Döhring's (*Die Etymologie der sogen. Gerundivformen*, Programm-abhandlung, Königsberg) which proposes to explain -ndo- by the Greek nouns in -*avθος*, etc.; to wit: Brugmann (*Gr.* II. § 69, anm.), Stolz (*Hdbch.* II., p. 311), Buck (*Oscan-Umbrian Verb-System*, 184), and others, among them, Horton-Smith.

The opinion of these scholars is the merest assertion, based on a naïve mathematical procedure of this sort:

$$\begin{aligned} 1) \text{ -DH-} &= \text{ prim. Ital. } -f, \\ 2) \text{ N } &= " " n. \\ \therefore \text{ -ndh-} &= " " -nf-. \end{aligned}$$

Sound-change in groups is quite a different thing to isolated sound-change. A group of nasal + aspirate needs to be looked at very carefully, for the aspirates, as many scholars believe, were liable to conversion into sonants when in the neighborhood of nasals (v. Brugmann, *Gr.* I². § 704, anm., and the literature there cited). If this be true, not -NDH- but -ND- may have come into preprim. Italic.

But let us suppose that -NDH- was the form inherited by preprim. Italic, and consider 1) its very probable development, and 2) the evidence for its actual development.

There are two theories for the history of the aspirates in Italic. According to the one most in vogue DH gives þ (whence f), bh gives f, etc.; by Hartmann's theory, which von Planta (*I.c.* I. § 214) acknowledges he cannot refute, DH becomes ð, BH ð, etc. Between these I will not attempt to decide here, though by the latter -NDH- > nd> prim. Ital. -nd- is a chain that adapts itself easily to my theory.

For the second question the evidence is both collateral and direct. The following collateral evidence is in point.

1) In Umbrian and in Latin *-mb-* is in fact the product of *-MBH-* (v. Brugmann, *Gr.* I². § 771 *b*, and von Planta, *I.c.* I. § 224, p. 466).

2) In Umbrian *-nGH-* seems to have become *-ng-* in *ninctu* 'ninguito' (v. von Planta, *I.c.* p. 468), with a loss of aspiration as in Latin.¹

Oscan offers no words of certain etymology containing *-MBH-* or *-NGH-*.² In the silence of Oscan I maintain that we may provisionally regard *-mb-* and *-ng-* as prim. Italic from *-MBH-*, *-NGH-*.

A difficulty arises here with the alleged change of *-NG-* through *-mb-* to *-mm-* in Umbr. *umen* 'ointment' from **omben* out of **onguen* (v. von Planta, *I.c.* I. § 212). If *-mbh-* became prim. Ital. *-mb-* we should perhaps expect a further assimilation to Umbr. *-mm-* if this explanation of *umen* be true, but *umen* is explained from **ōmen* (: Lat. *omen-tum* 'caul') by Bréal and Buecheler, while Pauli compares it with *umor* 'water.' Besides, *-mb-* from *-ngu-* may not have been the precise phonetic equivalent of *-mb-* from *-MBH-*.

The analogy of the Latin and Umbrian (and, provisionally, prim. Italic) treatment of *-MBH-* *-NGH-* leads us to infer that *-NDH-* became prim. Ital. *-nd-*. In that case *-NDH-* and *-ND-* may have fallen together in prim. Italic. The assimilation of prim. Italic *-nd-* to *-nn-* in Oscan and Umbrian would represent *-NDH-* as well as *-ND-*. This supposition is not refuted by the failure of *-mb-* from *-MBH-* to assimilate, for in modern Romance languages *-nd-* assimilates to *-nn-* in certain dialects (v. Meyer-Lübke's *Italienische Grammatik*, § 230), where *-mb-* remains intact.

¹ Brugmann's objections to this explanation (*Gr.* I². § 666, anm.) leave *ninctu* high and dry: "die annahme, *-nχue-* sei im Umbr. zu *-ngue-* geworden wie *-mf-* zu *-mb-* hilft nichts, weil das *e* schon in Uroskischumbr. synkopiert worden ist." This difficulty disappears if *-ngue-* was prim. Italic (v. von Planta, *I.c.* I. § 172, for the phonetic questions involved). In point of fact *ninctu* and *ninguit* probably represent a blend of NEIG- 'wash' and s)NEIGH- 'snow,' just as a similar blend of these roots, if they are not ultimately identical, suggests itself for Ir. *nigim* 'I wash' (cf. Osthoff, *J. F.* IV. 289).

² But see von Planta's explanation of Osc. *angetuzet* (*I.c.* II., p. 261).

It is not to collateral evidence alone that I would appeal. Let us now examine all the cases of nasal + spirant in the dialects, and see if any of them represents with any certainty the product of -NDH-, -MBH-, or -NGH-.

1) Osc. *amfret* 'ambiunt,' Umbr. *ambretuto* 'ambiunto.'

Schulze (*K.Z.* XXVII. 423, anm.) explained *amfret* from **amfifert*. This explanation is not disproved to my mind by the double syncopation it assumes. That *am-* was a compounding form of *ambi-* seems to me probable on the testimony of the native grammarians (v. Lewis and Short's *Lexicon*, s.v. *ambi* II., and Lindsay's *Lat. Lang.* 578 for their evidence), and more particularly from *amicio* 'I wrap about' from *am* + *iacio*. With *am-* beside *ambi-*, I would compare *āv-* beside *āva-* in Homer. But Schulze's explanation is weakest on the side of signification.

Bronisch (*Die Oskischen i und e Vokalen*, p. 105) derives *amfret* from **amfer* + *sent*, but von Planta's objections (*I.c.* II. § 304, p. 291) seem to me conclusive. No explanation can be regarded as satisfactory that separates *amfret* from *ambretuto*.

Scholars seem to be in the main agreed in explaining *amfr-* *ambr-* in our words as from **ambher-*, an analogical extension of **ambhi-* from Lat. *inter*, Osc. *anter*, Umbr. *ander*. A special reason for this analogy does not present itself to me; *ambi-* is practically limited to composition, while *inter* and its dialectic cognates is in free use as a preposition, and always in the form *inter*, etc., both in and out of composition. Why is there no **amber* or **amfer*?

Let us look for a simpler explanation of *amfret* and *ambretuto*. I cite the following clear occurrences of the words:

avt. pust. fēhúis. pús. fisnam. am fret . . . (von Planta, No.	at post muros qui fanum am biunt, etc.
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127. 44)

enocom prinuati peracris sacrī
ambretuto ape ambrefurent |
termnome benurent termnuco
com prinuati eso persnimumo
tasetur (*ib. Ig. Taf. VI. b* 56)

tum cum pr-uatis <i>opimis</i> hostiis ambiunto, ubi ambierint, ad terminum cum pr-uatis sic pre- cantor taciti.

In both these passages ‘encircle,’ Lat. ‘*cingere, incingere*’ will translate our verb. I suggest that *in-serere* is the etymological translation in both cases; *am-fret* will precisely cover Lat. *ins(e)runt* as to its form, while *obsérant* makes a fair translation of *amfret*.

It is not difficult to illustrate how Latin *in-* approximates *ambi-* in sense. I compare *am-ictus* ‘cloak’ with *in-volucrum*, *in-tegumentum*, *in-duviae*, words of similar meaning. I note *in-volvere*, *im-plicare*, *in-nectere* ‘envelope’; *in-cludere* ‘enclose’; *in-cingere* ‘engirdle.’ An etymological translation of *serit* with *in-* is ‘entwines’; cf. *sēria* ‘cylindrical jar,’ *series* ‘succession, chain,’ *ser-ilia* ‘ropes,’ *ser-ta* ‘wreath.’

This explanation is supported by a study of the Latin word *ambrices*: ‘regulae quae transversae *asseribus* et *tegulis interponuntur*’ (Paulus-Festus). Here *asseribus* ‘beam, lath’ is itself derived from *ad + ser*, while *interponuntur* might be more explicitly defined by *inseruntur inter*. We have in *imbrices* ‘pantiles’ genuine Latin for dialectic *ambrices*. A certain differentiation of meaning may well have taken place. From the definition cited the *ambrices* might be *tegulae deliciares* ‘gutter-tiles’ underlying the flat tiles (v. Goell’s Becker’s *Gallus* II. 292). As we know the Roman roof (v. Schreiber’s *Atlas of Classical Antiquities*, Pl. lii. 15), the space between two *asseres*, was entirely covered by one row of overlapping *tegulae* having upturned flanges. These flanges were capped by a row of overlapping *imbrices*. In the earlier shingle stage of roofing (cf. Goell *l.c.* 291) roofs must still have had three parts, *asseres*, *tegulae* (‘scandulae’) and sheathing, *ambrices*, the latter overlapping the *asseres* and forming the junction between *asseres* and *tegulae*. Thus overlapping was the function of *ambrices* and *imbrices* alike, and **in-sr-ices* etymologically means ‘overlapping.’¹

In still another Latin word the ingenious have found

¹ I would note here still another compound of *ser-* ‘twist’ in Latin; viz. the form *combretum* ‘rush.’ I am not optimist enough to compare *combr-etum* with Lith. *szeñdrai* ‘a rush’ and abstract a primitive *KVENDHRO-* as Fick and, after him, Brugmann, do: it is so simple to explain *com-bre-tum* as a participle to *com + sero*.

**am-fer-*, viz. in *anfr-actus*. I abide by the division *anfractus*, and present the following explanation of the meaning, without deciding whether *an-* is cognate with ἀνά or a compounding form of *ambi-*: κλάω ‘I break’: ἀνα-κλάω ‘I bend’ = *frango* ‘I break’: *an-fractus* ‘a bend.’

2) Osc. *Anafriss*.

This word has been explained (v. von Planta, *I.c. I.* § 220) as *a) Imbrisbus*, *b) Inferis*, *c) as related to ἀναφέροντες*, *d) as from an-* ‘breathe’ + *-dhr-* or *-sr-*. Of these views, only the first can be called current. I have proposed (*Amer. Jour. Phil.* XVI. 492 sq.) to explain *Anafriss* by **amforibus* (: Lat. *amphora* ‘jar’), an explanation von Planta (*I.c. II.*, p. 769) regards as improbable.

One difficulty with my explanation is that the Oscans inflect ἀμφορεύς in a different way to the Romans, but the latter had a distinct tendency to the first declension in their metric system, a system borrowed from the Greeks almost as completely if not as formally as the French system has been adopted by continental Europe (v. Nonius’ chapter *de generibus vasorum et poculorum*, p. 543 sq.). The fact that the Roman said *cratera* as well as *crater* (from κρατήρ) tallies with his saying *amphora* (ἀμφορεύς). We may not be sure, however, that *amphorum* (gen. plur.) is not a bodily transfer of ἀμφορῶν (from ἀμφορέων), just as *drachmum* from δραχμῶν, though the analogy of *nummum* (2d decl.) may be taken into the account. Inasmuch as *Anafriss* occurs in a rite to Ceres (*infra*, p. 21), it may perhaps be an almost bodily transfer of the dat. plur. ἀμφορεῦσι.

Whether we derive *Anafriss* from a hybrid dative **amforibus* or by direct transfer of ἀμφορεῦσι, the critical difficulty is whether Osc. *f* may represent φ. The representation of the Greek aspirates in Oscan is discussed by von Planta (*I.c. I.* § 22) with the following results: Oscan, like Latin, knows two methods of transcription, *th* and *t* for θ, *ch* and *c* for χ; there are no certain cases of φ (on *diumpais*, v. *infra*, p. 21), but Grecizing orthography seems warranted by some spellings where *ph* is found for φ.

There is no question but the Oscans spelled their *f* by φ

in Greek transliterations (v. the author, *Amer. Jour. Phil.* XVI. 494, and Horton-Smith, *The Oscan Word ANASAKET*, pp. 42, 70), though I am unable to prove conversely that ϕ was transliterated by Osc. *f*. We know, however, that Pompeian graffiti, as early as 50 A.D., render ϕ by *f*, and until proof to the contrary is furnished, we may believe that the Oscans might do the same thing. Several elements demand consideration here. It is important to know not only how an Oscan would transliterate a Greek word into his alphabet, but also how a Greek would write his own words in Oscan characters. Hieratic transliteration, in a word, may have differed from popular. The Greek scribe who rendered Latin *Fundanius* by Φονδανίος (81 B.C.) might similarly have rendered his ἀμφορ- into an Italic alphabet by *amfor*.

Another element to be reckoned with is conscious etymological transliteration: ἀμ-φορεύς 'two-handled' would suggest to any Italian his own *am-* (*ambi-*), and -φορεύς 'handle' might get its orthography from *fero* 'I bear,' by a general association of ideas; I particularly note *ferculum*, *feretrum* 'bier': φέρετρον as a general point of departure for the orthography, while *ferula* 'young stag's horn,' *for-fex* 'claw,' *furca* 'fork,' furnish a more particular point of departure.

In the last resort *Anafriss*: ἀμφορεύς might be explained as a cognition, without resort to a theory of borrowing.

I conclude in fine that we may waive the flexional difficulty of **amforibus*, and if we bear in mind always the Greekish character of the Ceres cult (*infra*, p. 21), the problem of *f* as a transliteration for ϕ becomes graphic rather than phonetic, when we assume it to be the consistent orthographic process of one who transliterated Osc. *f* by ϕ .

So much for the difficulties. The next thing is to furnish strong exegetical reasons for *Anafriss* from **amforibus*. I begin by citing (from von Planta, No. 200) the briefer version of the inscription in which *Anafriss* occurs:—

aasas. ekask. eestint.	arae hae extant
húrtúi.	luco :
vezkei.	*Uetusci,
evklúi.	*Euclο
30 fuutreí.	Creatrici
anter. stataí.	*Interstitiae
kerri.	Cereri
ammaí.	*Ammae
diumpaís.	Lumpis
35 líganakdíkeí. entraí.	*Leg — dici *Interiae
kerriaí.	Cereali
anafríss.	<i>Imbribus</i>
maatús . . .	*Matis . . .
40 patanaí. piistiaí.	Pandae *Pisteae
deívaí. genetaí.	Divae Genitae.
aasaí. purasiaí.	in ara ignaria
45 saahútum. tefúrum.	sanctuum <i>holocaustum</i>
alltreí. pútereípid.	in altero utroque
akeneí. etc.	—.

Nothing is more uncertain than *Imbribus* in this interpretation, though the starred words show how much else is problematical. If we bear in mind that the Ceres cult was introduced from Greece by Greek priestesses, and along with a Greek ritual (v. Cicero, *pro Balbo* 55), we might well expect to find a great number of words borrowed from the Greek in this inscription.

I share with Lindsay (*l.c.*, p. 11) his incredulity about the explanation of *diumpais*, Lat. *lumpis* from Gk. *νύμφη* ['water-nymph']. I would derive *diumpais* from *di-* 'two' (cf. Umbr. *di-fue*¹ 'bi-fidum, δι-φυής,' and von Planta, *l.c.* I. § 202, p. 414), and make *-umpais* a cognate of Lat. *uncus* 'hook,' *δύκος* 'elbow.' For the difference in the nature of the guttural I note Skr. *āñká-* bend, *āμπνξ* 'circlet,' and the proper name *Αμπτος* 'Ancus' (v. von Planta *l.c.* I. § 168, p. 332). The gradation, or, as I should prefer to call it for this case, alternation, *a/o*, is undeniable (v. Brugmann, *Gr.* I². § 536). This leads us to a Greek **δι-ομπα*, 'having two

¹ Is *di-fue* borrowed from *δι-φυής*? This would settle the question of *f* for *φ*.

handles.' I note Horace's *diota* 'two-eared-[jar].' A further Greek cognate may be ὅμπνη, ὅμπη 'sacrificial cake,' if this was named from its twisted shape (cf. σπεῖρα 'coil,' borrowed in Latin *spira* 'sacrificial cake'). If the current explanation of *iū* as a monophthongal *ii* is right, then *dium-pais* comes from prim. Osc. *du-ompa- (cf. Umbr. *du-pursus* 'two-footed'), whence *dūmpa*, in the way explained by von Planta (*I.c. I.* § 53). This explanation will also account for Lat. *lumpa*, *lympha* 'water' (with the *d/l* alternation as in *lacruma*), alongside of Osc. **diumpa* 'cup with two handles.' For the meaning I compare Lat. *poculum* 'cup,' but also 'drink, potion.' For myself I have always understood *latices* as 'cups' (?*later* 'brick'), with 'liquid' for a derived meaning.

The word *līganakdīkei* has defied satisfactory explanation from the Latin. Let us attack it as Greek. In view of ἀγγοθήκη, ἐγγυθήκη 'stand for vessels,' borrowed as we know in Lat. *incitega*, we may explain *līganakdīkei* as from prim. Ital. **lēgni-* (whence Latin *lēnis* 'dish,' and, with anaptyxis, Osc. **ligani-*): λεκανίς 'dish,' plus **angdēka* (: ἀγγοθήκη) whence we might infer Osc. **akdīc-o-*, with change of declension. Into phonetic detail it is not my wish to go, but the definition of *līganakdīkei* as 'dish-receptacle, lanci-incitega, pulvinar,' seems to me to suit the sense of our inscription; and Macrobius (III. XI. 5 sq.) expressly states that in Roman rites a *mensa* (*infra*, p. 23) was used as an *arula* and a *pulvinar*.

The next word to *Anafriss* is *Maatūls*, and this I propose to connect with Lat. *mātula* 'little vessel,' diminutive to **māto-s*. I illustrate the quantitative relation by *scūtum* 'shield' (cf. *σκύτος* 'hide') *scūtale* 'thong,' but *scūtīca* 'lash'; and more particularly *scūta* 'dish' (Lucilius in Priscian): *scūtūla* 'little dish' (cf. for the meaning of these words ἀσπίς 'shield, dish').

We can hardly doubt that *patanaī* in this inscription is an Oscan dat. to *matānη* 'dish.'

If *Anafriss* be also explained by **amforibus*, we shall have five words in the inscription referring to the sacred vessels.

On this point let me here repeat some general considerations

I have already urged (*Amer. Jour. Phil.* XVI. 492): "The Italians used *amphorae* for coffins (cf. ω 74); and the native *ollae* were in regular use as urns for the ashes of the dead. The Arval brothers worshipped *Ollae* (cf. Henzen, *Acta Fratrum Arvalium*, p. 30, and the authors there cited). The said *ollae* may have been mere utensils in the sacrifice and *Patanaī* (= Lat. *patina* 'dish') is an object of worship in the present inscription. The Romans worshipped *Patella*¹ 'little dish' . . . In Plautus the *di patellarii* are understood as being the Lares (v. the scholiast on Persius, III. 56)."

I quote now in running fashion from the *Acta Fr. Arv.* (p. 26 seq.) a passage descriptive of the rites of Dea Dia, who was probably the native Roman divinity corresponding to the imported Ceres :

1) postea inde praetextati capite velato vit[ti]s spiceis coronati lumen adscenderunt . . . 2) deinde reversi in aedem in mensa sacrum fecerunt *ollis* [OTIIS] . . . 3) item flam(en) et promag(ister) scyfos arg(enteos) cum sumpu(v)is ante osteum [et] acerras [ferentes] ture et vino fecerunt . . . 4) deinde in aedem intraver(unt) et ollas precati sunt . . . 5) et deas unguentaverunt et aedes clusa e(st) . . . 6) libellis acceptis carmen descendentes tripodaverunt in verba haec : enos Lares iuvate, etc.

I make the following observations: 1) The worship of Dea Dia took place in a grove, and the costume worn suits the worship of Ceres;—2) A table was used as an altar (cf. Macrobius, III. XI. 3 sq., commenting on *Aen.* VIII. 279), and a sacrifice made upon it to the *Ollae*;—3) While the spelling of *scyfos* on this inscription (A.D. 218) is not necessarily antique, it may perhaps represent an archaic hieratic transliteration; at least three sorts of sacred vessels are mentioned here;—4) Prayers are addressed to the *Ollae*;—5) Images of the goddess are anointed;—6) The incor-

¹ I note Cicero, *de Fin.* II. 22: *at qui reperiemus asotos primum ita non reliquios ut edant de patella?* The *salinum* ('salt-cellar') and the *patella* were employed for the *mola salsa* rite, and the *di patellarii* came to be regarded as the Lares, I suggest, by popular etymology with *patres* (cf. Goell, Becker's *Gallus*, III. 398).

poration of the Arval song gives to the rites here described a particularly antique character, and adds to the worship of Dea Dia the worship of the Lares and of Mars.

The Umbrian monuments preserve a corresponding rite at VII. *a*, which I cite in translation only: 1) *tum precatione in—em libato Praestitae *Cerriae *Cerri Martii . . .* 2) *tum vasculis atris in—em sic precamino. . . .* Unclear as the forms **Cerriae *Cerri* are, the Umbrian words are surely akin to Lat. *Ceres*, a point absolutely clinched when we set Umbr. *praestote Šerfie* alongside of Osc. *anter · statai · Kerri*. Here in the Umbrian rites, as in those to Dea Dia, the worship of Ceres is joined with that of Mars, and, above all, worship is offered to the sacrificial vessels (for Umbr. *persnihmu* ‘precamino’ governs a dat., like Lat. *supplicare*).

In other Oscan inscriptions also the *olla* appears, whether as a sacrificial vessel or as a mortuary urn is not clear (129): *nep · memnim · nep · ulam · sifei · heriad*, ‘nec monumentum nec ollam sibi capiat.’¹

The inscription to Ceres under discussion records, according to my interpretation, in addition to tributes to the divinity, tributes to the sacred jars employed in her worship, as well as to mortuary urns (the Lares). The only certain divinities besides Ceres on the inscription are Jupiter and Hercules (in the lines omitted above), while Mars and the Lares are associated with Ceres in the Umbrian and Roman rites, though

¹ In another inscription (128), which is of very difficult interpretation, the phrase *keri areti kai avt ulas leginei* occurs several times; *keri areti kai* seems to mean *Cereri Ultrici*, and *ulas leginei* is explained as *illius legionis*, but many scholars explain *ulas* as *ollae* (v. von Planta, II., p. 628) ‘sepulcri,’ and unless *legioni* be interpreted very vaguely as ‘potestati,’ this last explanation seems most likely. If we take our cue for the explanation of this inscription from that other Ceres-tablet already discussed, we might interpret *ulas leginei* by *ollae pulvinari*, ‘the couch or support on which the *olla* was laid,’ deriving *leginei* from a stem **legno-* ‘bed.’ Thus *ulas leginei* taken as a quasi-compound approximates in sense *liganakdikei* as explained above, and *leginei* may have the general meaning of ‘bowl, receptacle’ (in which the pointed *amphora* was set).

An apparent synonym of *legino-* in the inscription is *heria-* (line 1), and it is not impossible but *heria-* belongs to Osc. *heriad* ‘capiat’ in the sense of Lat. *capio* ‘bowl’: *capio*.

These suggestions I venture with most extreme reservation, in a forlorn hope of explaining the problematical by the hardly less problematical.

Macrobius (III. XI. 10) notes the association of Hercules and Ceres in a common rite.

The correspondences in ritual I have set forth seem to me to make very strongly for the interpretation of *Anafriss* by **amforibus*, and I venture to believe that I have offered a plausible explanation of the flexional and phonetic difficulties involved.

We might, however, admit the equation *Anafriss* = 'Imbrisbus' without destroying my contention that -MDH- became prim. Ital. -nd-. There is a problem of syllabification here; -M + BHR- can prove nothing for -MBH-.

3) Umbr. *anferener* 'ambiferendi.'

As a specific Umbrian compound, this word can not be used for phonetic inferences.

4) *Mamphur*, 'appellatur loro circumvolutum mediocris longitudinis lignum rotundum quod circumagunt fabri in operibus tornandis (Paulus-Festus), bow-drill.'

From *mamphur* an Oscan **manfar* has been inferred (v. Bugge, *Romania*, III. 154, cited by Körting, *Lateinisch-Romanischen Wörterbuch*, s.v. *manfurinum*, No. 5051; and Meyer-Lübke, cited by von Planta, *I.c.* II., p. 595), cognate with Skr. *mánthan* 'churning-stick.' This explanation has been taken up by Brugmann (*Gr.* I², § 571), who compares *μόθος* 'din of battle' M. Ir. *moth* 'penis' (?), O.N. *mǫndull* 'handle,' Lith. *menture* 'quirl,'—Fr. *mandrin* 'drill' from Lat. **mandarinum* (!). This last is particularly bold etymologizing, but when I bethink myself of our *bit* 'augur' (; bite), I am content to refer Fr. *mandrin* to Lat. *mandere* 'chew,' and if Oscan **manfar* instead of Greekish *mamphur* were quotable, I should still be content to explain it from *mani-* + *foro-* (: *forat* 'drills') 'hand-drill,' or merely to compare Lat. *manibrum* 'hilt, handle,' syncopated in Oscan to **manfr-*.

The Greekish orthography of *mamphur* should make us bear in mind Scaliger's explanation from *μαννο-φόρος*¹

¹ The word *μαννο-φόρος* is certainly extant only in the scholiast's note to Theocr. XI. 41, where the manuscripts read *ἀμνοφόρως*, which has been amended to *μηνοφόρως* 'crescent-browed' and *μαννο-φόρως* 'collar-decked.' If Vergil *Ecl.* II. 40 sq. makes for the first interpretation, *Aen.* VII. 488 makes for the second.

'collar-decked,' a description very applicable to a bow-drill. The terms of the toreutic art are mainly borrowed from Greek. Tools get their names, it is known, from various sources,—from proper names, *e.g.* *Jimmy*, *Jack*, Ital. *martinetto* 'reel' (v. Körting, *l.c.* No. 5140); names of animals, *e.g.* Ital. *lopporo* 'a hook' (*ibid.* s.v. *lupulus*, No. 4934). Possibly *μαννο-φόρος* was first the name of a pet deer and afterwards converted to the name of a tool.

The phonetic questions involved in my derivation of the Italic Gerundive admit now of a very brief statement. After passing in review all the cases of nasal + spirant in the Italic languages, I have shown that for none of them is it possible to prove an Aryan base of nasal + sonant aspirate between vowels. I have further shown that in Umbrian and Latin the actual result of primitive nasal + sonant aspirate is nasal + sonant. I have further observed that many scholars agree that a nasal had a deaspirating effect on a near-by sonant aspirate, whether dialectically in the primitive speech, or subsequently in the derived languages. These facts allow us to conclude that the "law" -NDH-, etc., becomes prim. Ital. *-nd-*, etc., is much more probable than that -NDH- becomes *-nf-*, as some scholars on purely *a priori* grounds have claimed.

Now, a theory is valuable in proportion to what it explains. A phonetic change which is neither demonstrably improbable nor proved to be false deserves to be tested from this point of view.

I call attention to Osc. *ínim* 'et,' Umbr. *ennom*, *enom* 'tum,'¹ *enumek*, *enuk* 'tunc,' Duenos inscription *einom* 'igitur.' With these I compare, and first for the signification only, Skr. *ádhā* 1) 'thereupon, then,' 2) 'and,' 3) 'therefore.' In Italic, Lat. *inde*, Umbr. *ennom* have signification 1), Osc. *ínim* has 2), and *einom* has 3).

The cognition of Gk. *ἐνθα* 1) 'there, then,' 2) 'where, when,' *ἐνθεν* 'thence, thereupon,' with Skr. *ádhā*, at least in suffix, seems to me unquestionable, and the stems, too, are cognate if we admit gradation. Lat. *inde*, whether it corresponds in

¹ Lat. *tum* approximates 'et'; see the lexicons and note Plautus, *Rud.* 644.

stem to *ἐνθα* or to Skr. *ádhā*, will also fall into this group, to which it conforms so fully, if the dialectic cognates of *inde* fall under the law I maintain: prim. Ital. *-nd-* from *-NDH-*. Our English *and*, and O.G.H. *unta* may also be referred along with the words under discussion to ENDHO-, a demonstrative stem of the primitive language. To this stem Umbr. *ennom* will be an accusative, while Osc. *inim* is accusative to ENDHÍ-, a parallel *i* stem; cf. with Lat. *qu-o* and *qu-i*; Skr. *ká*, *ki-m*, Gk. *τις* and *τό-*; for the ending *-im*, cf. Lat. *ol-im* 'on a time,' *inter-im* 'meantime.'

The stem ENDHO- posited here seems well justified, if we compare the shifts in signification of the forms about to be cited, with the analogous shifts in the group Skr. *úpa* 'hither, thither, near, upon,' Gk. *ὑπό* 'under, beneath,' Lat. *sub* 'under' alongside of Skr. *upári*, Gk. *ὑπέρ*, Lat. *super* 'over, above,' with an *r*-suffix. Beside Skr. *ádhī* 'over, on high' stands *adh-ás* 'under,' *adha-rá* 'lower,' *adha-má* 'lowest,' whereas *ádhā* has paler demonstrative meanings, like *úpa*. In a strong grade with *adhás* 'under' is *áindhas* 'darkness.' In Avestan, *aða* 'and, so, then,' *aðat* (ablative) 'then, after' belong to this stem. In Greek *ἐνθεν*, *ἐνθα* we have the strong grade, but *ἀθερίζω* 'slight, make light of,' is, I suggest, a denominative cognate with Skr. *adhará-* 'lower,' cf. *adhari-kar-* 'worst, beat down,' *adharibhū-* 'be worsted,' and, for the sense, late Lat. *humiliare* to *humilis*. In Latin *in-ferus* 'lower,' the phonetic abnormality is due to *in-ferre* 'bury' (Cicero, *Leges*, II. 64), *in-feriae* 'funeral rites,' *in-ferum* 'wine of the Manes' (Cato); this sense of *ferre* is shown also by *efferit*, *ἐκφέρει* 'buries.'

I have already proposed (*Amer. Jour. Phil.* XVI. 4 footnote), and, on purely semantic grounds, without any reference to the dialectic forms, to explain Lat. *mandat* 'charges' as a cognate of *μανθάνει* 'learns.' The same proposal, but not in a form to involve the same phonetic questions, I now learn, has been made before by Bugge (*Altitalische Studien*, 17, cited by Osthoff, *Perfect*, 242), viz. to refer Osc. *manafum*, Lat. *mandare* to a base MAN + DHĒ-. According to this explanation Lat. *manda-*, Osc. *mana-*, supply the Italic cognate for the

large group (Sanskrit, Avestan, Germanic, and Balto-Slavic) akin to Gk. *μανθάνω* (v. Prellwitz's *Etym. Wörterb.* s.v.). There is no difficulty on the side of meaning: *μανθάνει* means 'puts (one's own) mind on, learns,' cf. Skr. *mána-* + *dhā* 'intend, purpose'; while *mandat* means 'puts (another's) mind on, directs, charges,' cf. *vou-θετεῖ* 'admonishes, warns,' and note Homer's *μένος δέ οἱ ἐν φρεσὶ θῆκεν* 'he put *menos* into him.' In older English *learns* meant both *discit* (*μανθάνει*) and *docet* (*mandat*).

Accordingly, Lewis and Short but support my view of the meaning when they define *mando* by 1) 'commit to one's charge, enjoin, order, command,' and give *praecipio* and *edico* as synonyms.¹ With definition 2), 'commit, entrust, etc.,' we may compare the current explanation of *mandare* as denominative to **manidus*, 'giving in the hands'; an example is *ego tibi meas res mando* (Plautus, *Cist.* 719), which we may turn by 'I put my affairs in your hands,' but this example no more proves the current derivation from **mani-dus* 'handing,' than we can infer a similar derivation for the italicized words of the following passage:

quo numquam unam rem me licet semel *praecipere* furi,
quin centiens eadem *imperem* atque *ogganiam* etc.
(Plautus, *Asin.* 421-2.)

The explanation I uphold for *mandare* postulates no **mani-dus*, and, in fact, instead of a denominative **manidare* we should expect rather *in manum dare* (cf. εἰς χεῖρα τιθέναι).

Finally, the law that -NDH- becomes prim. Ital. -nd- allows us to establish a connection between the Italic gerundive in -*endae* (dat. fem. sg.) and the Indo-Iranian infinitive in -*adhyāi*. These formations correspond very minutely in their syntactical and semantic range, and that they are not in phonetic disaccord seems to me to have been demonstrated in the argument made above.

Let me not overstate the cogency of my arguments: that

¹ Though they cite no Plautine examples here, any number might be cited of *mandavi* = *imperavi*; e.g. *Cas.* 503, *Circ.* 346, *Epid.* 47, *Merc.* 428 (?) — cf. *Bacch.* 1084, etc.

Lat. *ferendae* must come from BHER-M-DH²I, and that Skr. *bhāradhyāi* must come from BHER-M-DHYĀI, far be it from me to assert, but if, in company with other scholars, I can believe that φέρ-εσθαι and *bhāra-dhyāi* have closely cognate suffixes, DH²I and DHYĀI, I assert with confidence that there are even stronger grounds for recognizing a cognation between Lat. *feren-dae* and Skr. *bhāra-dhyāi*, grounds so strong syntactically and semantically as to make it plausible that *feren-* and *bhara-* are formally identical.

On this point I do not insist. I have always sympathized with Bréal's views as to the inadvisability of writing out Aryan bases, and Oertel's strong essay (*Amer. Jour. Phil.* XVIII. 416 sq.) on this point reinforces that disinclination. But that Skr. *bhāradhyāi*, Lat. *ferendae*, — and to a less extent Gk. φέρεσθαι, — are cognate formations, seems to me well within the limits of belief.

A word needs to be said in conclusion on the formation of which *rotundus* and *oriundus* are the type. They correspond in formation to Skr. *dhiyam-dhā* 'thought-directing, worshipful, pious,' though there is no especial reason why -dā and not -dhā might not have been the compounding word here.¹ That *dhiyam-dhā* is morphologically cognate with *dhiyá-dhyāi* 'to invent, contrive,' is undeniable, but for the Italic Gerundive we must start, not vaguely from a general type of compounds, but specifically from dative infinitives in -DHYĀI, -DH²I.

I conclude as follows: Inasmuch as the Italic Gerundive shows such near points of contact with the Indo-Iranian infinitives in -adhyāi, those that dispute their cognation must

¹ If *Callifae*, the name of a Samnite town mentioned by Livy along with *Allifae* and *Rufrium*, may be regarded as standing for *Califae*, then it is perhaps to be explained as cognate to Lat. *Calidae* (sc. aquae). As *Rufrium* seems to be cognate with *ruber* 'red,' it is tempting to explain *Allifae* also as a sense-name, perhaps from *Algūidae (?) 'cold waters': *Allifae* and *Callifae* are certainly rhyme-words. If ī in *Allifae* (spelt in an Oscan abbreviation *Alifa*) is really long, we can compare *libido*, etc., alongside of *libidus*, etc.

These explanations would make for -dh- and not -d- for Lat. *calidus*, etc., but, after all, both *do-* and *dho-* seem well-attested Italic suffixes (v. von Planta, *l.c.* II. § 261, 10).

prove, 1) that in my postulated endings - \bar{m} -DHYĀI - \bar{m} -DHJĪ -MDH- was exempt from the not unusual conversion of sonant aspirate with a near-by nasal into sonant; then, when that is proved, they must prove, 2) that -NDH- gave in prim. Ital. -nþ- rather than -nð- or -nd-, and the proof of this must be more definite than the unsupported assertion that DH after a nasal suffered the same phonetic change as intervocalic -DH-; and the proof they render must be valid for -NDH- between vowels and not for -N-DHR-. Until this proof is rendered, the close cognation of *feren-dae* with Skr. *bhāra-dhyāi* seems to me a proposition worthy of our acceptance.

POSTSCRIPT.—An interesting case of suffixal -DHO- in Greek occurs to me now (Oct. 3, '98), viz.: in *ἀγαθός*, which I define by ‘active.’ The meaning has developed along the lines of our ‘efficient’ (: Lat. *efficit* ‘accomplishes’). Homeric *βοὴν ἀγαθός* doubtless meant originally rather ‘clamorem faciens’ than ‘clamore bonus.’ Morphologically *ἀγαθός* is identical with *agendus*.

Apropos of the explanation offered for *Callifae* in the last footnote, I note that this town could not have been far from the river *Calor* (v. Weissenborn’s note to Livy 8, 25, 4), a tributary of the *Volturnus*, on which *Allifae* was situated. Two confluent streams may well have been called in contrast ‘hot’ and ‘cold.’ Another explanation of *Allifae* is that it stands with transposition of syllables for **Alfulae* ‘Albulae,’ cf. *Rufrae* (*Rufrium*). I note the Latin *Aquae Albulae* ‘White [Sulphur] Springs.’ In Virginia we have Cold, Hot, Warm, White, Yellow, Red (cf. *Rufrae*), and Violet Sulphur Springs.